State of Utah

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DAQ-073-06

MEMORANDUM

TO: Air Quality Board

THROUGH: Richard W. Sprott, Executive Secretary

FROM: Bill Reiss, Environmental Engineer
Mat Carlile, Environmental Planning Consultant

DATE: October 18, 2006

SUBJECT: PM Standards Update

Background

The Clean Air Act (42 U.S.C. 7409 (b)(2)(d)(1)) requires the EPA to complete a thorough review of the National Ambient Air Quality Standards (NAAQS) at least every five years. Particulate Matter (PM) standards were last reviewed in 1997. The EPA was under court order to complete its review of the PM NAAQS by December 20, 2005 and have a final rule by September 27, 2006. EPA issued its final rule on September 21, 2006.

The final standards address two categories of particle pollution: *fine particles* ($PM_{2.5}$) that are 2.5 micrometers in diameter and smaller; and *inhalable coarse particles* (PM_{10}) that are smaller than 10 micrometers. EPA is strengthening the 24-hour fine particle standard from the 1997 level of 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$, and retaining the current annual fine particle standard at 15 $\mu g/m^3$. The EPA is also retaining the existing national 24-hour PM_{10} standard of 150 $\mu g/m^3$; however, it is revoking the annual PM_{10} standard.

The following table summarizes the changes of the PM NAAQS:

	24-hour	Annual
Previous $PM_{2.5}$ NAAQS	65 µg/m^3 (three-year average of 98th percentile 24-hour average values)	15 µg/m^3 (three-year weighted annual averages)
New Rule	35 µg/m^3 (three-year average of 98th percentile 24-hour average values)	15 µg/m^3 (three-year weighted annual averages)
Previous PM_{10} NAAQS	150 µg/m^3 (one exceedance of the standard per year averaged over a three year period.)	50 µg/m^3
New Rule	150 µg/m^3 (one exceedance of the standard per year averaged over a three year period.)	Revoked

Implication of New $PM_{2.5}$ Standards

We have reviewed the monitoring data from our existing $PM_{2.5}$ monitoring network to determine the impact of the new PM standard, looking specifically at our data from 2003 through 2005. We determined that 12 out of the 17 monitors in Utah would have violated the new $PM_{2.5}$ 24-hour NAAQS during that period.

The following table summarizes how these modifications to the NAAQS could impact Utah's $PM_{2.5}$ attainment status at our current monitors, based on data from 2003 through 2005. Bolded numbers indicate that there would have been a violation of the new 24-hour NAAQS had it been in place.

Monitor	**New 24-Hour Standards (35 µg/m^3)** [1]
Bountiful [2]	***40***
Brigham City	35
Cottonwood	***47***
Logan	***65***
Lindon	***43***
Harrisville	*35*
Hawthorne	***47***
Highland	*35*
Herriman	*34*
Magna [2]	***46***
N. Provo	***39***
N. Salt Lake	***49***

1 $PM_{2.5}$ values based on 2003-2005 24-hour average, calculated from 98th percentile values obtained from EPA/AQS Quicklook reports. The 24-hour $PM_{2.5}$ NAAQS is met when the 24-hour value at each monitoring site is less than or equal to 35 µg/m^3. Values are subject to rounding conventions of 40 CFR Part 50 Appendix N section 4.3(b).

2 We did not have a full three years of data to determine averages for these sites. Bountiful and Magna data are based on 2 years of sampling, and Tooele #3 started monitoring on July 6, 2005. However, based on preliminary values, it appears that these sites potentially will violate the new 24-hour standard.

Ogden #2	***40***
Spanish Fork	***36***
Tooele #3 [2]	***46***
Washington Terrace	*34*
West Valley	***48***

We have put together a map (see attachment 1) that shows the potential nonattainment areas of the revised $PM_{2.5}$ standard based on EPA's default designation boundaries of Metropolitan Statistical Areas (MSAs). As with the initial $PM_{2.5}$ designations, it is our intent to propose any nonattainment boundaries be based on scientific data and not solely on geopolitical boundaries.

Implementation Schedule

We have compiled an implementation schedule for the revised $PM_{2.5}$ standard (Attachment 2).

Attachments:

Attachment 1: Metropolitan Statistical Areas Likely to Violate a 35 $\mu g/m^3$ $PM_{2.5}$ NAAQS
Attachment 2: Implementation Schedule for the Revised $PM_{2.5}$ NAAQS